

WHAT IS CLAIMED IS:

1. An air conditioner comprising:

a capacity variable compressor unit;

5 an outdoor side heat exchanger;

a pressure reduction valve;

an indoor side heat exchanger, said a capacity variable
compressor unit, said outdoor side heat exchanger, said pressure
reduction valve and said indoor side heat exchanger constituting

10 a cooling medium circulation line;

a control unit operatively connected to the capacity
variable compressor unit;

a temperature setting device electrically connected to the
control unit for setting a predetermined temperature;

15 an outdoor temperature sensor electrically connected to the
control unit and adapted to detect an outdoor temperature;

an indoor temperature sensor electrically connected to the
control unit and adapted to detect an indoor temperature; and

a humidity sensor electrically connected to the control unit
20 and adapted to detect a humidity of the indoor side,

said control unit including capacity determining means for
determining a capacity of the capacity variable compressor unit in
accordance with a temperature data from the indoor temperature
sensor and the temperature setting device, memory addressing
25 means into which information of outdoor temperature and indoor
humidity is inputted, memory means in which a maximally

allowable capacity to be read out in relation to the indoor humidity is stored, and maximum capacity limiting means for limiting the capacity of the capacity variable compressor unit determined in accordance with the temperature data to a value less than the maximally allowable capacity read out from the memory means.

2. An air conditioner according to claim 1, wherein the maximally allowable capacity is also read out in relation to the outdoor temperature.

3. An air conditioner according to claim 1, wherein said memory means is programmable memory means comprising an electrically erasable programmable read-only memory (EEPROM) in which a value of maximally allowable capacity for the capacity variable compressor unit is made programmable.

4. An air conditioner according to claim 1, wherein said temperature data includes temperature difference between the detected indoor temperature and the set temperature and includes temperature variation.

5. An air conditioner according to claim 1, wherein said capacity variable compressor unit includes an inverter operatively connected to the control unit and a compressor driven at a

revolution number determined in response to an operation condition of the inverter, said capacity determining means of the control unit generates a signal representing a target frequency for the inverter on the basis of the temperature data, and said
5 maximum capacity limiting means generates a signal representing an inverter operation frequency determined in comparison with the target frequency and the maximally allowable frequency read out from the memory means.

- 10 6. An air conditioner comprising:
a capacity variable compressor unit;
an outdoor side heat exchanger;
a pressure reduction valve;
an indoor side heat exchanger, and a capacity variable
15 compressor unit, said outdoor side heat exchanger, said pressure reduction valve and said indoor side heat exchanger constituting a cooling medium circulation line;
a control unit operatively connected to the capacity variable compressor unit;
20 a temperature setting device electrically connected to the control unit for setting a predetermined temperature;
an indoor temperature sensor electrically connected to the control unit and adapted to detect an indoor temperature; and
said control unit including capacity determining means for
25 determining a capacity of the capacity variable compressor unit in accordance with a temperature data from the indoor temperature

sensor and the temperature setting device, memory addressing means, memory means in which a maximally allowable capacity to be addressed by the memory addressing means is stored, and maximum capacity limiting means for limiting the capacity of the capacity variable compressor unit determined in accordance with the temperature data to a value less than the maximally allowable capacity read out from the memory means, after instructions for stopping operation of the capacity variable compressor unit has been generated in accordance with the temperature data from the capacity determining means.

7. An air conditioner according to claim 6, wherein said memory means for setting and storing a maximally allowable capacity comprises a programmable memory means of EEPROM.

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8. An air conditioner according to claim 6, wherein said capacity variable compressor unit includes an inverter operatively connected to the control unit and a compressor driven at a revolution number determined in response to an operation condition of the inverter, said capacity determining means of the control unit generates a signal representing a target frequency for the inverter operated in accordance with the temperature data from the capacity determining means, and said maximum capacity limiting means generates a signal representing an inverter operation frequency determined in comparison with the target

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frequency from the capacity determining means and the maximally allowable frequency from the memory means.

9. An air conditioner a capacity variable compressor unit;
5 an outdoor side heat exchanger;
a pressure reduction valve;

an indoor side heat exchanger, sand a capacity variable compressor unit, said outdoor side heat exchanger, said pressure reduction valve and said indoor side heat exchanger constituting

10 a cooling medium circulation line;

a control unit operatively connected to the capacity variable compressor unit;

a temperature setting device electrically connected to the control unit for setting a predetermined temperature;

15 an outdoor temperature sensor electrically connected to the control unit and adapted to detect an outdoor temperature; and

an indoor temperature sensor electrically connected to the control unit and adapted to detect an indoor temperature, which is transmitted to the control unit,

20 said control unit including capacity determining means for determining a temperature data in accordance with the set temperature and the indoor temperature, memory addressing means into which the outdoor temperature is inputted,

programmable memory means storing a maximally allowable
25 capacity for the capacity variable compressor unit which is read out in responding to the outdoor temperature, and maximum

capacity limiting means for limiting the capacity of the capacity variable compressor unit determined in accordance with the temperature data to a value less than the maximally allowable capacity read out from the programmable memory means.

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10. An air conditioner according to claim 9, wherein said programmable memory means comprises an electrical erasable programmable read-only-memory (EEPROM).

10 11. An air conditioner according to claim 9, wherein said capacity variable compressor unit includes an inverter operatively connected to the control unit and a compressor driven at a revolution number determined in response to an operation condition of the inverter, said capacity determining means of the control unit generates a signal representing a target frequency for
15 the inverter operated in accordance with the temperature data from the capacity determining means, and said maximum capacity limiting means generates a signal representing an inverter operation frequency determined in comparison with the target
20 frequency from the capacity determining means and the maximally allowable frequency read out from the programmable memory means.

12. An air conditioner provided with a capacity variable
25 compressor unit including an inverter, in which the capacity of

the capacity variable compressor unit is controlled in response to air-conditioning load data including temperature data based on a set temperature and an indoor temperature, wherein an inverter frequency for controlling an operation condition of the compressor unit is controlled by limiting a frequency obtained in response to the air-conditioning load data to a value less than a maximally allowable capacity stored in memory means.